9/1/2021

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Re: Tree protection for New Single-Family Home at 16484 South Kennedy Road, Los Gatos, CA, 95030, Parcel 2

Dear Justin,

At your request, we have visited the property referenced above to evaluate the trees present with respect to the proposed project. The report below contains our analysis.

Summary

There are 94 protected trees on and adjacent to this property. Five, all on this property, are recommended for removal, as they conflict with project features.

All other trees are in good condition and should be retained and protected as detailed in the Recommendations, below. With some design modifications and proper protection, all are expected to survive and thrive during and after construction. If design modifications cannot be made, some additional trees may need to be removed.

Assignment and Limits of Report

We have been asked to write a report detailing impacts to trees from the proposed [Project description] on this property. This report may be used by our client and other project members as needed to inform all stages of the project.

All observations were made from the ground with basic equipment. No root collar excavations or aerial inspections were performed. No project features had been staked at the time of our site visit.

Tree Regulations

In the Town of Los Gatos, arborist reports for development projects are governed by the guidelines in the document titled "TREE PROTECTION REQUIREMENTS FOR PLANNING APPLICATIONS[1].

For this project, the following part of the protected tree definition from section 23.10.0955 of the Los Gatos town code[2] was used:

> (4) All trees which have a four-inch or greater diameter (twelve and one half-inch circumference) of any trunk, when removal relates to any review for which zoning approval or subdivision approval is required.

All trees to be removed require permits for removal and must be replaced per the following table:

[1] Available at: https://www.losgatosca.gov/DocumentCenter/View/18923/Arborist-report-checklist?bidId=

[2] Available at: https://library.municode.com/ca/los_gatos/codes/code_of_ordinances?nodeId=CO_CH29ZORE_ARTIINGE_DIV2TRPR_S29.10.0955DE

Canopy Size of Removed Tree [1]	Replacement Requirement [2, 4]	Single Family Residential Replacement Option [3, 4]
10 feet or less	Two 24-inch box trees	Two 15-gallon trees
More than 10 feet to 25 feet	Three 24-inch box trees	Three 15-gallon trees
More than 25 feet to 40 feet	Four 24-inch box trees; or Two 36-inch box trees	Four 15-gallon trees
More than 40 feet to 55 feet	Six 24-inch box trees; or Three 36-inch box trees	Not Available
Greater than 55 feet	Ten 24-inch box trees; or Five 36-inch box trees	Not Available

If planting a replacement tree is infeasible, and if approved by the town arborist, the following in-lieu fees apply:

24 inch box tree = $250
36 inch box tree = $500

Observations

Trees

There are 94 trees over 4" in diameter on and adjacent to this property, of which six were inventoried with the Parcel 1 trees. Forty-three are coast live oaks (*Quercus agrifolia*), 10 are olives (*Olea europaea*), 18 are deodar cedars (*Cedrus deodara*), and the remaining 23 are of various species. Photographs were taken only of trees in area of impact (Images #1-11).

Several trees in the rear portion of this property beyond the ditch display symptoms of sudden oak death (*Phytophthora ramorum*).

Project Features

A new single-family house is proposed, along with a three-car garage, covered rear patio, and pool.

Proposed hardscape comprises a driveway, four uncovered parking spaces, a trash enclosure, two walkways to the back yard, two patios, and pool hardscape. A synthetic lawn is proposed at one corner of the house.

During construction, the entrance to the proposed driveway will be occupied by a temporary gravel construction entrance.

A gate is proposed near the driveway entrance. No associated fence is shown, nor are any other fences.

Retaining walls will be needed for many project features. Grading of up to 3 feet is shown above (northwest of) the driveway; below (southeast of) the driveway; above the gravel walkway; and on the northwest and southeast sides of the pool.

New water service is proposed above (northwest of) the driveway. New sewer service appears to be proposed under the driveway, though this is not explicitly shown. No gas or electrical service are shown.

Vegetated drainage swales up to 4" deep are shown at the upper (northwest) and rear lower (southeast) property perimeter. Although a detail is given for a level spreader, no level spreaders are shown on the drainage plan.

Potential Conflicts

Parcel 1 trees #1, 3, 7, and 8, and Parcel 2 trees #18 and 23 - the proposed driveway and associated grading and/or retaining walls lie within these trees' TPZs.[3]

Parcel 1 tree #4, and Parcel 2 trees #1-15, 19-22, 33, and 34 - no project features lie within these trees' TPZs.

Tree #16 - construction access to the proposed garage lies within this tree's TPZ.

Tree #17 - this tree's trunk lies within the proposed garage footprint.

Tree #18 - the proposed retaining wall on the lower (southeast) side of the driveway lies slightly within this tree's TPZ.

Tree #24 - several proposed features lie within this tree's TPZ: 1) the house; 2) the parking area; 3) the trash enclosure; 4) the gravel walkway above (northwest) of the house; 5) the vegetated swale.

[3] Tree protection zones. See Discussion, Tree Map, and Tree Inventory Table for more detail.

Tree #25 - several proposed features lie within this tree's TPZ: 1) the retaining wall for the pool patio; 2) the pool; 3) the vegetated swale

Tree #26 - this tree is located within the footprint of the proposed spa.

Tree #27 - this tree is located within the footprint of the proposed pool.

Tree #28 - the proposed pool and the retaining wall for the proposed pool patio lie within this tree's TPZ.

Tree #29 - construction access for the retaining wall for the proposed artificial turf area lies within this tree's TPZ.

Trees #30 and 31 - these trees lie within the footprint of the proposed artificial turf area.

Tree #32 - the vegetated swale lies within this tree's TPZ.

Tree #35 - this tree lies within the vegetated swale footprint.

Trees #36-88 - these trees are on the other side of the ditch running through the middle of the property, well away from all proposed project features.

Testing and Analysis

Tree DBHs were taken using a diameter tape measure if trunks were accessible. The DBHs of trees with non-accessible trunks were estimated visually. All trees over 4 inches in DBH were inventoried.

Vigor ratings are based on tree appearance and experiential knowledge of each species.

Tree location data was collected using a GPS smartphone application and processed in GIS software to create the maps included in this report. Due to the error inherent in GPS data collection, and due also to differences between GPS data and CAD drawings, tree locations shown on the map below are approximate except where matched to the survey.

We visited the site several times between 1/11/2021 and 7/30/2021. All observations in this report were made at those site visits. All photographs were taken on 1/11/2021 and 1/21/2021.

Appraisals were performed only for trees in the area of impact.

This report is based on the plan set titled “Plans for the Architecture and Site Approval (ASA): New Single Family Residence - Parcel 2,” dated 8/23/2021, comprising sheets C1-C8, provided to me electronically by the client.

Discussion

Tree Protection Zones (TPZ’s)

Tree roots grow where conditions are favorable, and their spatial arrangement is therefore unpredictable. Favorable conditions vary among species, but generally include the presence of moisture, and soft soil texture with low compaction.

Contrary to popular belief, roots of all tree species grow primarily in the top two feet of soil, with a small number of roots sometimes occurring at greater depths. Some species have taproots when young, but these almost universally disappear with age. At maturity, a tree’s root system may extend out from the trunk farther than the tree is tall.

The optimal size of the area around a tree which should be protected from disturbance depends on the tree’s size, species, and vigor, as shown in the following table (adapted from Trees & Construction, Matheny and Clark, 1998):

Species tolerance	Tree vitality[4]	Distance from trunk (feet per inch trunk diameter)
Good	High	0.5
	Moderate	0.75
	Low	1
Moderate	High	0.75
	Moderate	1
	Low	1.25
Poor	High	1
	Moderate	1.25
	Low	1.5

[4] Matheny & Clark uses tree age, but we feel a tree’s vitality more accurately reflects its ability to handle stress.

It is important to note that some roots will almost certainly be present outside the TPZ; however, root loss outside the TPZ is unlikely to cause tree decline.

Some of the tree species present here are not evaluated in Trees & Construction. Our own evaluation of them based on our experience with the species is as follows:

Species	Estimated tolerance	Reason for tolerance rating
California bay	1	Highly tolerant of stress when young, but is a poor compartmentalizer when mature and is highly susceptible to decay.
Hollyleaf cherry	2	Performs well but grows slowly
Olive	3	Highly tolerant of root loss and even transplanting
Privet	3	Vigorous to the point of weediness
Silver wattle	2	Weedy to the point of invasiveness in this area, but genus is reportedly intolerant of root injury.
Wild plum	2	Sensitive to a variety of stressors in the landscape

Roots and Foundations

Tree roots do not generally grow under houses, as foundation installation requires these areas to be heavily compacted and dry. As discussed above, these conditions do not meet trees' needs for root colonization. Roots may grow under houses if foundations are poorly installed, or if trees are growing in contact with the foundation.

Sudden oak death (SOD)

Sudden oak death is caused by a nonnative pathogen called Phytophthora ramorum. As the name suggests, susceptible trees can decline within weeks of exhibiting clear symptoms, although initial infection likely occurs much earlier.

Tanoaks (*Notholithocarpus densiflorus*) and coast live oaks (*Quercus agrifolia*) are the two tree species most often killed by the pathogen. California black oaks (*Quercus kelloggii*) are also susceptible. Blue oaks (*Quercus douglasii*) and valley oaks (*Quercus lobata*) are not susceptible.

The life cycle of sudden oak death requires a secondary plant host for reproduction. California bay (*Umbellularia californica*) is widely considered the most serious secondary host, though rhododendrons (*Rhododendron* spp.), camellias (*Camellia* spp.), and other common landscape plants are also suitable.

Laboratory testing for sudden oak death is possible but costly and difficult. Early treatment with fosphite (e.g., Agri-fos) can prevent infection and can prolong the life of a mildly infected tree, but there is no cure.

When performing landscaping work on a property where sudden oak death is known or suspected to be present, proper sanitation measures must be employed to prevent the disease from spreading to other locations. Notably, all debris should be retained onsite if possible, and all equipment, including workers' boots, should be cleaned before going to another site.[5]

Tree Appraisal Methods

We use the trunk formula technique with discounting for condition and functional and external limitations, as detailed in the second printing of the 10th Edition of the *Guide for Plant Appraisal* (Council of Tree and Landscape Appraisers, 2019).

For palms, we use the approximate height of clear trunk (estimated visually) multiplied by the per-foot cost given in the regional plant appraisal committee species classification for California.

Conclusions

Water Line

Installation of the proposed water line via trenching is incompatible with Parcel 1 tree #1 and would likely cause major impacts to Parcel 1 trees #7, and moderate impacts to trees #3 and 8.

If installed via directional boring at a depth of at least 3 feet, impacts to all these trees would be minimal to minor. It also appears potentially possible to move the proposed

[5] Sudden Oak Death Guidelines for Arborists. California Oak Mortality Force. 2014. Available at https://www.suddenoakdeath.org/wp-content/uploads/2014/12/arborist-06-08-with-2014-map.pdf

water line to be under the driveway. To our knowledge, neither of these options have yet been explored.

Driveway

Grading for and installation of the proposed driveway and associated retaining walls will likely cause moderate impacts to Parcel 1 trees #1-3, 7, and 8, and Parcel 2 tree #23; and minor impacts to Parcel 2 tree #18.

No other location appears likely to result in fewer overall tree impacts.

Gate

Installation of the northwestern gate post will likely impact Parcel 1 tree #7 to a moderate extent, and Parcel 1 tree #2 to a minor extent.

Garage

Tree #17 must be removed for the garage to be constructed.

Tree #16 will likely undergo minor impacts from construction access to the proposed garage.

House, Parking Area, Trash Enclosure, and Gravel Walkway

These features all impact tree #24 to a minor degree, as does one of the vegetated swales. Taken together, impacts to this tree will likely be moderate.

Pool, Spa, and Associated Patio and Retaining Walls

Trees #26 and 27 must be removed, as they are within the footprints of the pool and spa, respectively.

Tree #25 will likely undergo moderate impacts from the pool and patio.

Tree #28 will likely undergo minor impacts from the pool, spa, and patio.

Vegetated Swale

As shown, the proposed vegetated swale at the southeast property corner is incompatible with tree #35. We feel this feature can likely be modified to accommodate the trees with relative ease, but to our knowledge, this has not yet been explored.

Impacts to trees #24, 25, and 32 from the northwestern vegetated swale will likely be minor if excavation is performed gently and all sizeable roots encountered are preserved. If these considerations are not taken, then impacts to these trees will likely be moderate.

Artificial Turf Area and Associated Retaining Wall

Trees #30 and 31 will need to be removed for this feature to be installed.

Construction access for the retaining wall will likely cause minor impacts to tree #29.

Minimal Impacts

Parcel 1 tree #4 and Parcel 2 trees #1-15, 19-22, 33, and 34 are unlikely to undergo significant impacts from the project as proposed if fenced appropriately.

Trees #36-88 are unlikely to undergo any impacts from the project as proposed, as they are located well away from the project area on the other side of the ditch running through the middle of the property.

Recommendations

Design Phase

1. Explore design options for the following which may minimize impacts to trees:
    a. Water line - consider the following two options, and others if desired:
        i. Installation via directional boring at a depth of at least 3 feet, and
        ii. Installation under proposed driveway.
    b. Grading for driveway - minimize as much as practical within TPZs
    c. Gate - explore the option of moving the gate toward the house enough to place the northwestern post between Parcel 1 trees # 7 and 8.
    d. Vegetated swales - explore options to preserve tree #35
2. Locate sewer, gas, and electrical service outside tree TPZs insofar as practical.

Preconstruction Phase

1. Remove trees #17, 26, 27, 30, and 31, upon receipt of a permit from the Town of Los Gatos.
    a. Retain debris from all coast live oaks and California bays onsite, and preferably other tree species as well. Comply with all other industry best practices for dealing with sudden oak death-infected material.

2. All tree work must comply with the following Town requirement:

> Pruning or root pruning must be supervised by an ISA-certified arborist or an ASCA-Registered Arborist. See Section 29.10.1010 of the Town Code for specifications to determine if a pruning permit is required.

3. Install tree protection fencing for trees approximately as shown in the Tree Map, below.
    a. Minimum distances from trunk centers are given on the Tree Map. A larger area may be protected if desired.
    b. Where existing barriers which will be retained impede access comparably to tree protection fencing, these barriers are an acceptable substitute for tree protection fencing.
    a. Please be aware that tree protection fencing may differ from ideal tree protection zones, and from canopy sizes.
    c. Tree protection must comply with the following town requirements:

> Tree protection fencing requirements:
> 1. Six-foot high chain link fencing mounted on two-inch diameter galvanized iron posts shall be driven into the ground at least two-feet deep at no more than ten-foot spacing. When stipulated, for existing paving areas that will not be demolished, posts may be supported by concrete base.
> 2. Posted eight and one-half-inch by eleven-inch sign on each tree fence stating: "Warning – Tree Protection Zone – This fence shall not be removed and is subject to penalty according to Town Code 29.10.1025"
> 3. Labeled photographs of the installed fencing shall be emailed to the project planner prior to issuance of permits.
> 4. Tree protection fencing is required to remain in place throughout construction.
>
> Any protected tree on-site will require replacement according to its appraised value if it is damaged beyond repair as a result of construction.

Construction Phase

1. Maintain tree protection fencing as detailed above.
2. For all project features within TPZs:
    a. Hand-excavate nearest edge within tree protection zone to the full depth of the feature being installed or to a depth of three feet, whichever is shallower.
    b. Retain as many roots as practical.
    c. If roots over 1" in diameter must be cut, sever them cleanly with a sharp saw or bypass pruners.

d. Root pruning must comply with the following town requirement:

> Pruning or root pruning must be supervised by an ISA-certified arborist or an ASCA-Registered Arborist. See Section 29.10.1010 of the Town Code for specifications to determine if a pruning permit is required.

e. Notify project arborist when excavation is complete. Project arborist shall inspect work to make sure all roots have been cut cleanly.
f. If excavation will be left open for more than 3 days:
    i. Cover excavation wall nearest tree with several layers of burlap or other absorbent fabric.
    ii. Install a timer and soaker hoses to irrigate with potable water twice per day, enough to wet fabric thoroughly.

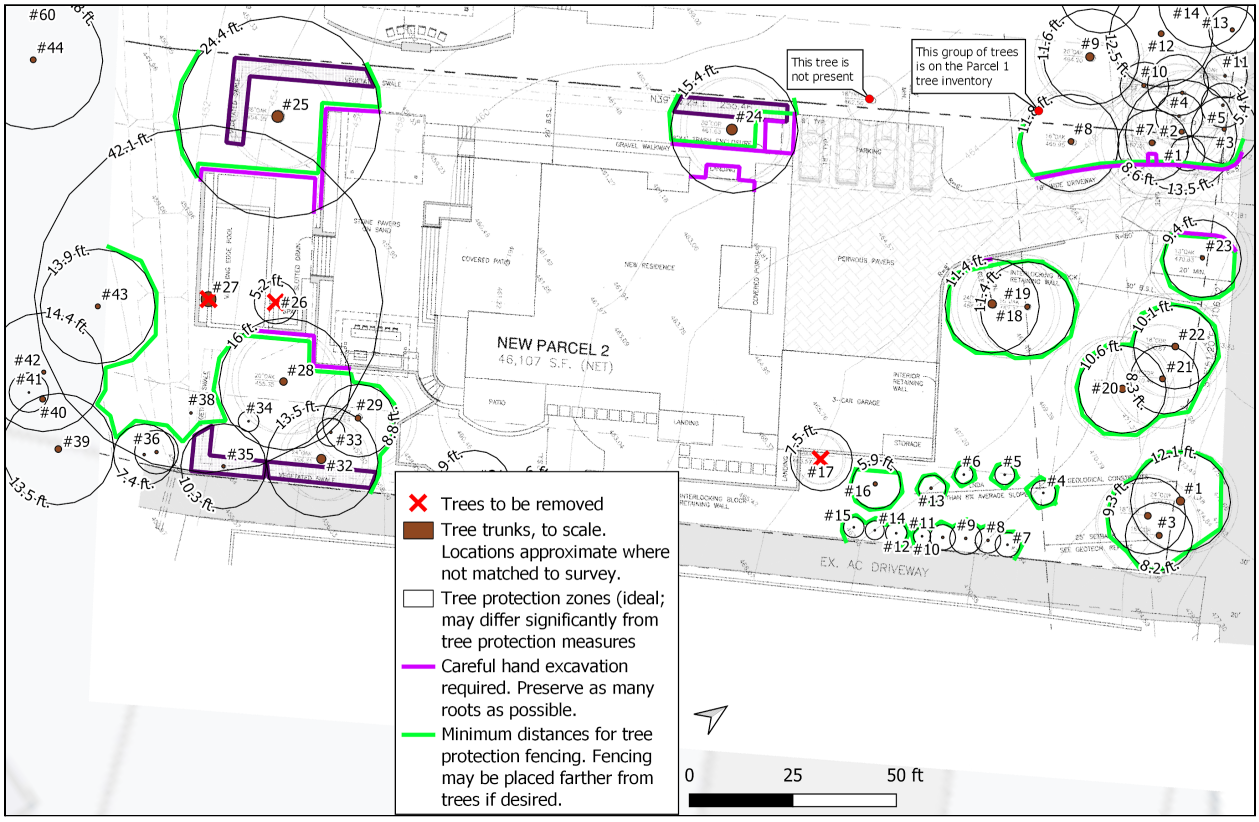
3. Excavation for vegetated swale must occur after exterior work is completed and all heavy machinery has left the site. Tree protection fencing must be removed before vegetated swale can be installed within TPZs.

Post-Construction Phase

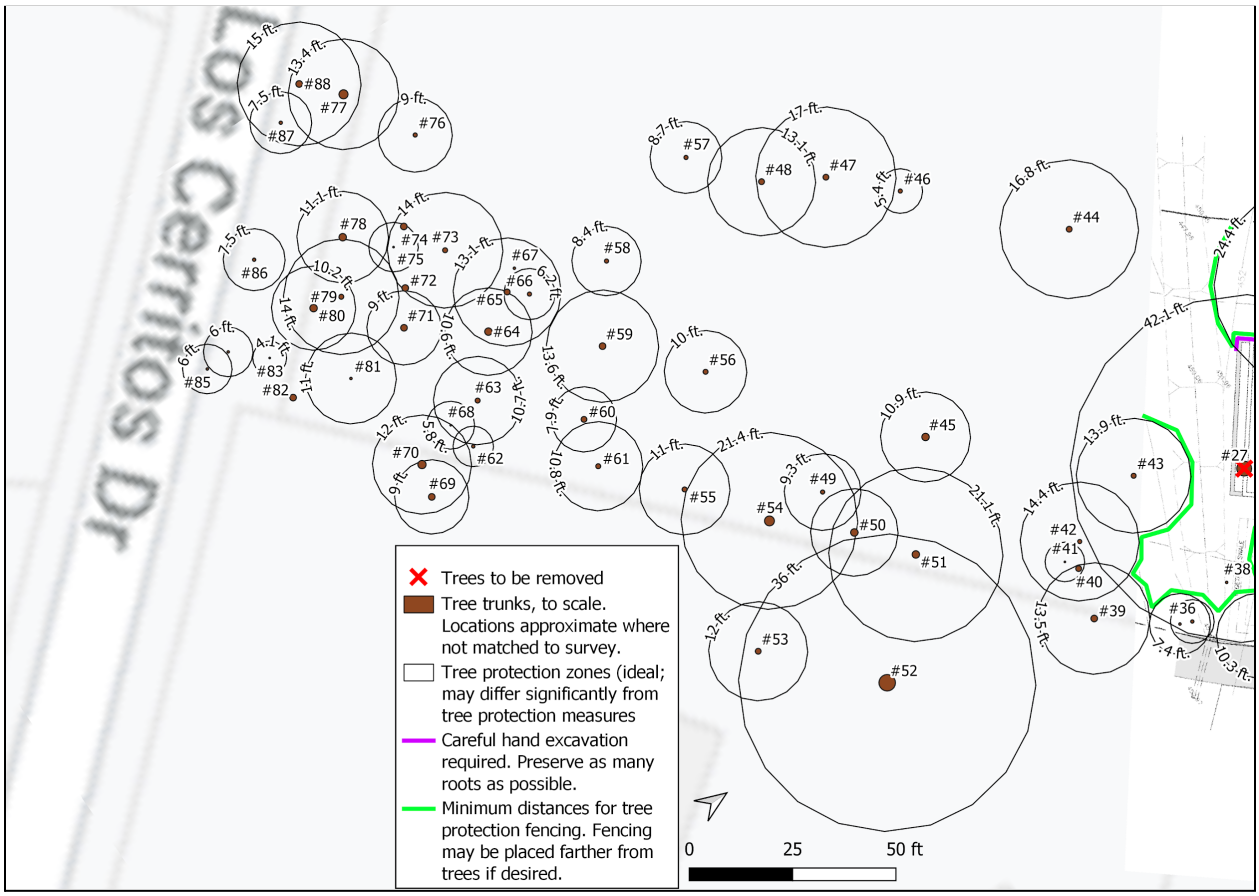
1. Provide supplemental irrigation for Parcel 1 trees #1-3, 7, and 8, and Parcel 2 trees #18, 23-25, 28, 29, 32, and 35 to aid in root regrowth for at least three years.
2. Plant replacements for trees #17, 26, 27, 30, and 31. Canopy sizes and replacement requirements are as follows:
    a. Tree #17 - 35 feet - four 15-gallon trees
    b. Tree #26 - 20 feet - three 15-gallon trees
    c. Tree #27 - 50 feet - six 24-inch box trees or three 36-inch box trees
    d. Tree #30 - 15 feet - three 15-gallon trees
    e. Tree #31 - 20 feet - three 15-gallon trees

Tree Maps

Map 1: area of impact



Map 2: area beyond ditch running through middle of property



Supporting Photographs

Image 1: deodar cedars #1-3 (left to right; obstructed; best possible angle)

Image 2: coast live oak grove #4-17 (left to right, some obstructed)

Image 3: coast live oaks #18 (left, foreground) and 19 (right, background)

Image 4: deodar cedars #20-22

Image 5: valley oak #23

Image 6: deodar cedar #24

Image 7: coast live oak #25

Image 8: privet #26 (small, foreground) and willow #27 (large, background)

Image 9: valley oak #28

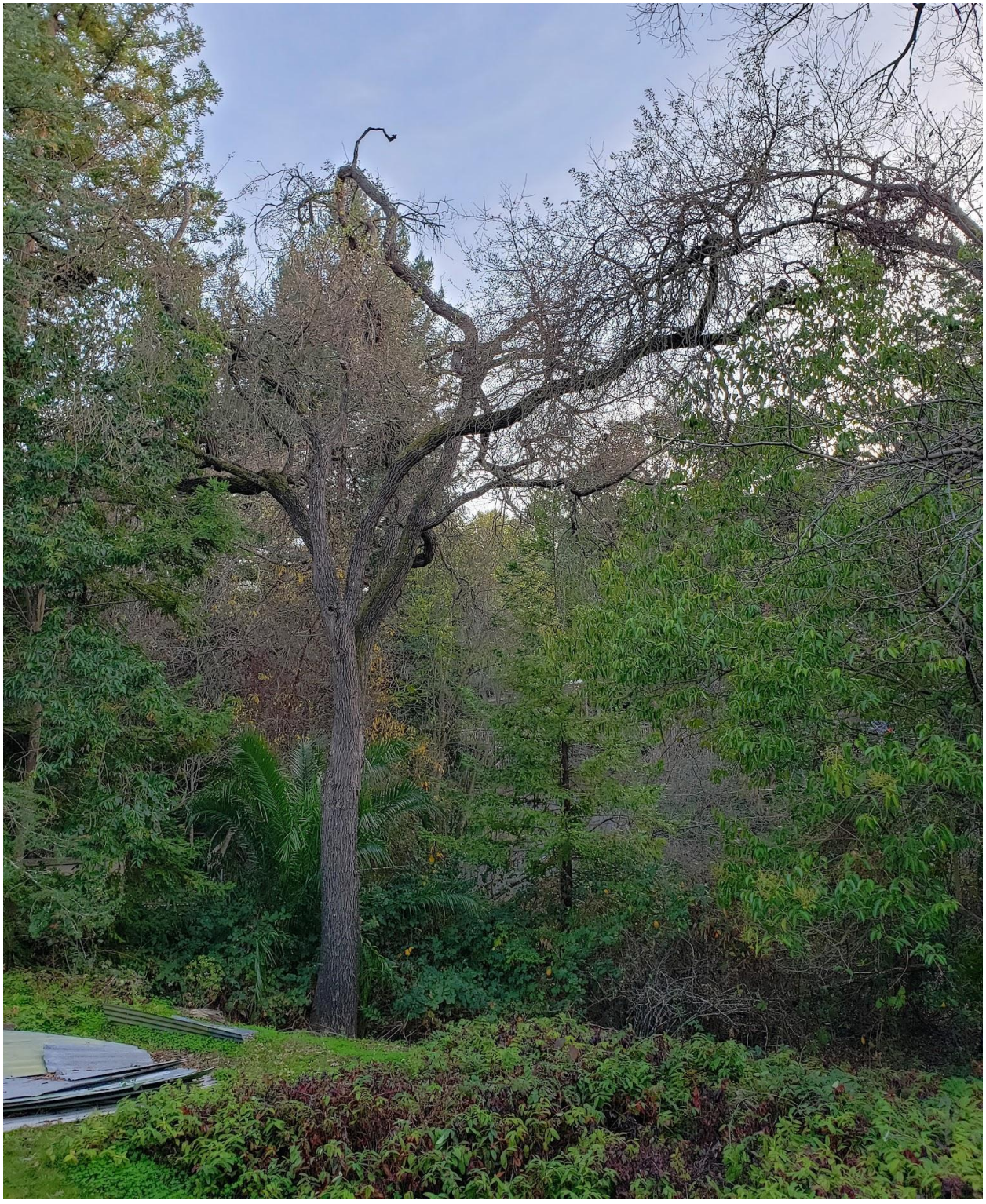


Image 10: deodar cedar #29 (foreground) and redwood #32 (background, obstructed)

Image 11: valley oaks #30 (left) and 31

Respectfully submitted,

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Terms of Assignment

The following terms and conditions apply to all oral and written reports and correspondence pertaining to the consultations, inspections, and activities of Aesculus Arboricultural Consulting:

1. All property lines and ownership of property, trees, and landscape plants and fixtures are assumed to be accurate and reliable as presented and described to the consultant, either orally or in writing. The consultant assumes no responsibility for verification of ownership or locations of property lines, or for results of any actions or recommendations based on inaccurate information.
2. It is assumed that any property referred to in any report or in conjunction with any services performed by Aesculus Arboricultural Consulting is in accordance with any applicable codes, ordinances, statutes, or other governmental regulations, and that any titles and ownership to any property are assumed to be good and marketable. The existence of liens or encumbrances has not been determined, and any and all property is appraised and/or assessed as though free and clear, under responsible ownership and competent management.
3. All reports and other correspondence are confidential and are the property of Aesculus Arboricultural Consulting and its named clients and their assigns or agents. Possession of this report or a copy thereof does not imply any right of publication or use for any purpose, without the express permission of the consultant and the client to whom the report was issued. Loss, removal, or alteration of any part of a report invalidates the entire appraisal/evaluation.
4. The scope of any report or other correspondence is limited to the trees and conditions specifically mentioned in those reports and correspondence. Aesculus Arboricultural Consulting assumes no liability for the failure of trees or parts of trees, inspected or otherwise. The consultant assumes no responsibility to report on the condition of any tree or landscape feature not specifically requested by the named client.
5. All inspections are limited to visual examination of accessible parts, without dissection, excavation, probing, boring or other invasive procedures, unless otherwise noted in the report, and reflect the condition of those items and features at the time of inspection. No warranty or guarantee is made, expressed or implied, that problems or deficiencies of the plants or the property will not occur in the future, from any cause. The consultant shall not be responsible for damages caused by any tree defects, and assumes no responsibility for the correction of defects or tree related problems.
6. The consultant shall not be required to provide further documentation, give testimony, be deposed, or to attend court by reason of this appraisal/report unless subsequent contractual arrangements are made, including payment of additional fees for such services as set forth by the consultant or in the fee schedule or contract.
7. Aesculus Arboricultural Consulting makes no warranty, either expressed or implied, as to the suitability of the information contained in any reports or correspondence, either oral or written, for any purpose. It remains the responsibility of the client to determine applicability to his/her particular case.
8. Any report and the values, observations, and recommendations expressed therein represent the professional opinion of the consultant, and the fee for services is in no manner contingent upon the reporting of a specified value nor upon any particular finding.
9. Any photographs, diagrams, charts, sketches, or other graphic material included in any report are intended solely as visual aids, are not necessarily to scale, and should not be construed as engineering reports or surveys unless otherwise noted in the report. Any reproduction of graphic material or the work product of any other persons is intended solely for clarification and ease of reference. Inclusion of said information does not constitute a representation by Aesculus Arboricultural Consulting as to the sufficiency or accuracy of that information.

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
1	Deodar cedar	Cedrus deodara	24.2	30	3		3		$820.00	3	12.1	None if fenced	-
2	Deodar cedar	Cedrus deodara	18.5	20	3		3		$890.00	3	9.3	None if fenced	-
3	Deodar cedar	Cedrus deodara	16.4	15	3		3		$1,350.00	3	8.2	None if fenced	-
4	Coast live oak	Quercus agrifolia	5.9	10	3		3		$1,110.00	3	3.0	None if fenced	-
5	Coast live oak	Quercus agrifolia	4.7	10	3		3		$580.00	3	2.4	None if fenced	-
6	Coast live oak	Quercus agrifolia	4.3	10	3		3		$820.00	3	2.2	None if fenced	-
7	Coast live oak	Quercus agrifolia	5.9	5	3		3		$1,210.00	3	3.0	None if fenced	-
8	Coast live oak	Quercus agrifolia	6.2	10	3		3		$640.00	3	3.1	None if fenced	-
9	Coast live oak	Quercus agrifolia	7.8	10	3		3		$740.00	3	3.9	None if fenced	-
10	Coast live oak	Quercus agrifolia	6.2	10	3		3		$3,640.00	3	3.1	None if fenced	-
11	Coast live oak	Quercus agrifolia	4.2	10	3		3		$5,800.00	3	2.1	None if fenced	-
12	Coast live oak	Quercus agrifolia	5.2	10	3		3		$13,500.00	3	2.6	None if fenced	-
13	Coast live oak	Quercus agrifolia	6.5	10	3		3		$6,000.00	3	3.3	None if fenced	-
14	Coast live oak	Quercus agrifolia	4.5	10	3		3		$11,700.00	3	2.3	None if fenced	-

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
15	Coast live oak	Quercus agrifolia	4.9	10	3		3		$7,200.00	3	2.5	None if fenced	-
16	Coast live oak	Quercus agrifolia	11.7	15	3		3		$13,300.00	3	5.9	Minor from construction access to new garage	-
17	Coast live oak	Quercus agrifolia	14.9	35	3		3	X	$8,700.00	3	7.5	Incompatible with new garage - trunk just outside footprint	-
18	Coast live oak	Quercus agrifolia	22.8	35	3		3		$10,000.00	3	11.4	Minor from retaining wall for new driveway; minor from construction access to new driveway	Measured at about 3 above grade due to significant reverse taper. Very poor structure. Two codominant stems diverging at about 5 above grade with bark inclusion about 18 inches long and significant elephant ears swelling.

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
19	Coast live oak	Quercus agrifolia	15.1	25	2		2		$7,400.00	3	11.4	None if fenced	Poor structure. Two leaders diverge at about 3 above grade with a bark inclusion about 24 inches long and significant elephant ears swelling. Two leaders, DBH 12.6, 8.4
20	Deodar cedar	Cedrus deodara	21.2	30	3		3		$2,610.00	3	10.6	None if fenced	-
21	Deodar cedar	Cedrus deodara	16.6	20	3		3		$23,100.00	3	8.3	None if fenced	-
22	Deodar cedar	Cedrus deodara	20.2	25	3		3		$14,100.00	3	10.1	None if fenced	-
23	Valley oak	Quercus lobata	12.5	35	3		3		$6,300.00	2	9.4	Minor to moderate from new driveway	-
24	Deodar cedar	Cedrus deodara	30.8	50	3		3		$3,220.00	3	15.4	Minor from house foundation; minor from parking area; minor to moderate from trash enclosure; minor to moderate from gravel walkway; minor from vegetated swale	-

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
25	Coast live oak	Quercus agrifolia	32.5	50	2		2		$4,450.00	3	24.4	Moderate from new retaining wall; moderate from pool; minor from vegetated swale	Two leaders diverge at about 4 feet above grade with bark inclusion about 3 feet long. Measured at about 1 foot above grade due to substantial reverse taper
26	Privet	Ligustrum lucidum	10.5	20	3		2	X	$5,200.00	3	5.2	Incompatible with spa	Two stems, DBH 7.4, 7.4
27	Willow	Salix sp.	42.1	50	2		2	X	$550.00	2	42.1	Incompatible with pool	Three stems, DBH 30, 24, 17.3 DBH estimated for 2 largest stems, as access is impeded by berry vines. Moderate mistletoe infestation.
28	Valley oak	Quercus lobata	21.3	50	3		3		$620.00	2	16.0	Minor from retaining wall; minor from pool and spa	-
29	Deodar cedar	Cedrus deodara	17.6	30	3		3		$3,200.00	3	8.8	Minor from retaining wall	-
30	Valley oak	Quercus lobata	7.5	15	3		3	X	$3,320.00	2	5.6	Incompatible with retaining wall, synthetic turf area	-

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
31	Valley oak	Quercus lobata	12.0	20	3		3	X	$1,470.00	2	9.0	Incompatible with retaining wall, synthetic turf area	Two stems, DBH 10.4, 6.0
32	Coast redwood	Sequoia sempervirens	27.0	40	3		3		$2,030.00	3	13.5	Moderate from vegetated swale	-
33	Privet	Ligustrum lucidum	6.8	15	3		2		$4,940.00	3	3.4	None if fenced	-
34	Coast redwood	Sequoia sempervirens	5.0	15	3		3		$14,300.00	3	2.5	None if fenced	DBH estimated, as trunk access is impeded by berry vines. Not tagged
35	Willow	Salix sp.	10.3	3	2		2		$1,410.00	2	10.3	Major from vegetated swale	-
36	Privet	Ligustrum lucidum	10.6	15	3		2		$1,220.00	3	5.3	None - on other side of ditch	Two stems, DBH 8.4, 6.4 Growing in same hole as tree #37
37	Wild plum	Prunus sp.	7.4	10	2		2		$1,810.00	2	7.4	None - on other side of ditch	Two stems, DBH 5.4, 5.0. Growing in same hole as tree #36
38	Wild plum	Prunus sp.	8.1	20	0		0		$0.00	2	0.0	N/A	Three stems, DBH 4.8, 4.7, 4.6. Dead and fallen
39	Valley oak	Quercus lobata	18.0	40	3	X	3		$12,200.00	2	13.5	None - on other side of ditch	Neighbor tree. DBH estimated.
40	California bay	Umbellularia californica	17.1	15	0		0		$0.00	1	0.0	N/A	Trunk broken off at about 15 feet.

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
41	California bay	Umbellularia californica	4.8	10	3		1		$2,270.00	1	4.8	None - on other side of ditch	-
42	Incense cedar	Calocedrus decurrens	11.5	20	1		1		$2,630.00	2	14.4	None - on other side of ditch	Fallen but still alive
43	Willow	Salix sp.	13.9	30	2		2		$3,170.00	2	13.9	None - on other side of ditch	Two stems, DBH 10.8, 8.7
44	Incense cedar	Calocedrus decurrens	16.8	25	2		2		-	2	16.8	None - on other side of ditch	-
45	Coast live oak	Quercus agrifolia	21.7	30	3		3		-	3	10.9	None - on other side of ditch	-
46	Coast live oak	Quercus agrifolia	10.8	10	3		3		-	3	5.4	None - on other side of ditch	-
47	Douglas-fir	Pseudotsuga menziesii	17.0	15	3		3		-	1	17.0	None - on other side of ditch	-
48	Olive	Olea europaea	17.4	20	2		2		-	3	13.1	None - on other side of ditch	-
49	Coast live oak	Quercus agrifolia	12.4	15	2		2		-	3	9.3	None - on other side of ditch	-
50	Coast live oak	Quercus agrifolia	21.1	30	3		3		-	3	10.6	None - on other side of ditch	-
51	Douglas-fir	Pseudotsuga menziesii	21.1	20	3		3		-	1	21.1	None - on other side of ditch	-
52	Coast live oak	Quercus agrifolia	48.0	50	2	X	3		-	3	36.0	None - on other side of ditch	Neighbor tree. DBH estimated.

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
53	Coast live oak	Quercus agrifolia	16.0	15	2	X	3		-	3	12.0	None - on other side of ditch	Neighbor tree. DBH estimated.
54	Olive	Olea europaea	28.5	40	2		2		-	3	21.4	None - on other side of ditch	Measured at about 3.5 above grade due to reverse taper
55	Olive	Olea europaea	14.6	15	2		2		-	3	11.0	None - on other side of ditch	-
56	Olive	Olea europaea	13.3	20	2		2		-	3	10.0	None - on other side of ditch	-
57	Olive	Olea europaea	11.6	20	2		2		-	3	8.7	None - on other side of ditch	-
58	Olive	Olea europaea	11.2	20	2		2		-	3	8.4	None - on other side of ditch	Two stems, DBH 8.6, 7.1
59	Olive	Olea europaea	18.1	15	2		2		-	3	13.6	None - on other side of ditch	Three stems, DBH 12.2, 12.1, 5.8
60	Coast live oak	Quercus agrifolia	15.8	15	3		3		-	3	7.9	None - on other side of ditch	-
61	Olive	Olea europaea	14.4	15	2		2		-	3	10.8	None - on other side of ditch	Two stems, DBH 10.5 and 9.8
62	Coast live oak	Quercus agrifolia	9.7	10	3		3		-	3	4.9	None - on other side of ditch	-
63	Olive	Olea europaea	14.2	15	2		2		-	3	10.7	None - on other side of ditch	-
64	Coast live oak	Quercus agrifolia	21.2	20	3		3		-	3	10.6	None - on other side of ditch	-

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
65	Coast live oak	Quercus agrifolia	17.5	15	2		2		-	3	13.1	None - on other side of ditch	-
66	Coast live oak	Quercus agrifolia	12.3	15	3		3		-	3	6.2	None - on other side of ditch	-
67	Olive	Olea europaea	7.3	10	0		0		-	3	0.0	N/A	Uprooted but still slightly alive
68	California bay	Umbellularia californica	5.8	10	3		1		-	1	5.8	None - on other side of ditch	-
69	Coast live oak	Quercus agrifolia	18.0	25	3	X	3		-	3	9.0	None - on other side of ditch	Neighbor tree. DBH estimated.
70	Coast live oak	Quercus agrifolia	24.0	40	3	X	3		-	3	12.0	None - on other side of ditch	Neighbor tree. DBH estimated.
71	Coast live oak	Quercus agrifolia	18.0	15	3		3		-	3	9.0	None - on other side of ditch	DBH estimated, as tree #72 is snapped and hung up in this one, making trunk access unsafe.

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
72	Coast live oak	Quercus agrifolia	18.0	0	0		0		-	3	0.0	N/A	Dead, and top has snapped and is hanging in tree #71. Has Annulohypoxylon canker, so DBH was estimated to avoid contaminating equipment in case of sudden oak death infection.
73	Coast live oak	Quercus agrifolia	14.0	10	1		1		-	3	14.0	None - on other side of ditch	Multiple bleeding wounds. DBH estimated visually to avoid contaminating equipment. Part of another tree is resting on this one but still attached.
74	Coast live oak	Quercus agrifolia	20.0	20	0		0		-	3	0.0	N/A	Dead. No clear signs of sudden oak death, but given the nearby symptomatic oaks, DBH was estimated to avoid contaminating equipment.

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
75	California bay	Umbellularia californica	4.0	5	1		1		-	1	6.0	None - on other side of ditch	Top broken from neighboring tree failure. DBH estimated, as neighboring hanging tree makes trunk access unsafe.
76	Coast live oak	Quercus agrifolia	12.0	15	2		2		-	3	9.0	None - on other side of ditch	Significant downhill lean. DBH estimated to avoid contaminating equipment, as there are some small bleeding wounds that may indicate sudden oak death infection.
77	Coast live oak	Quercus agrifolia	26.9	30	3		3		-	3	13.4	None - on other side of ditch	Five stems, DBH 21.3, 12.1, 6.3, 7.1, 5.7
78	Coast live oak	Quercus agrifolia	22.2	20	3		3		-	3	11.1	None - on other side of ditch	Two stems, DBH 20.2 and 9.2.
79	Coast live oak	Quercus agrifolia	14.0	10	1		1		-	3	14.0	None - on other side of ditch	Canopy is mostly dead
80	Coast live oak	Quercus agrifolia	20.4	20	3		3		-	3	10.2	None - on other side of ditch	-
81	California bay	Umbellularia californica	7.3	20	1		1		-	1	11.0	None - on other side of ditch	Canopy is mostly dead

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
82	California bay	Umbellularia californica	20.0	0	0		0		-	1	0.0	N/A	Has been dead for may years. Trunk has snapped and is lying on property line fence. DBH estimated, as hanging top and poison oak impede trunk access.
83	Hollyleaf cherry	Prunus ilicifolia	5.4	20	3		3		-	2	4.1	None - on other side of ditch	Two stems, DBH 3.9 and 3.8
84	Hollyleaf cherry	Prunus ilicifolia	8.0	20	3		3		-	2	6.0	None - on other side of ditch	DBH estimated, as stems are numerous and mostly small
85	Hollyleaf cherry	Prunus ilicifolia	8.0	15	3		3		-	2	6.0	None - on other side of ditch	DBH estimated, as stems are numerous and mostly small
86	Silver wattle	Acacia dealbata	10.0	15	3		1		-	2	7.5	None - on other side of ditch	Appears to have partially uprooted early in its life, and is growing prone
87	Silver wattle	Acacia dealbata	10.0	15	3		1		-	2	7.5	None - on other side of ditch	DBH estimated, as soft slope impeded trunk access
88	Silver wattle	Acacia dealbata	20.0	20	3		1		-	2	15.0	None - on other side of ditch	DBH estimated, as soft slope impeded trunk access

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P1 1	Coast live oak	Quercus agrifolia	4.2	10	1		1		$190.00	3	4.2	Major from water line if installed via trenching; moderate from driveway and associated grading	-
P1 2	Coast live oak	Quercus agrifolia	13.5	15	1	X	1		$1,600.00	3	13.5	Moderate to major from water line if installed via trenching; moderate from driveway and associated grading; minor from gate post	-
P1 3	Coast live oak	Quercus agrifolia	10.8	20	2		2		$1,940.00	3	8.1	Moderate from water line if installed via trenching; moderate from driveway and associated grading	-
P1 4	Coast live oak	Quercus agrifolia	7.6	15	2	X	2		$1,250.00	3	5.7	None if fenced	-
P1 7	Deodar cedar	Cedrus deodara	17.2	20	3		3		$8,600.00	3	8.6	Major from water line if installed via trenching; moderate from driveway and associated grading; minor to moderate from gate post	-

Tree #	Common Name	Species	DBH (in.)	Canopy size	Vitality (0-3)	Off-Site Tree?	Suitability for preservation (0-3)	Remove?	Appraised Value	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; ft. from center of trunk)	Expected Impacts	Notes
P1 8	Valley oak	Quercus lobata	15.7	40	3		3		$15,100.00	2	11.8	Moderate to major from water line if installed via trenching; moderate from driveway and associated grading	-